GENERAL INFORMATION			
Applicant	Hampton Lumber Mills - WA		
Facility Name and Address	Hampton Lumber Mills – Darrington Division 46921 Sauk Prairie Road P.O. Box 487 Darrington, WA 98241		
	Snohomish County		
Type of Facility	Sawmill		
Type of Treatment	Collection pond and infiltration trenches		
Legal Description of Application Area	SW 1/4, NW 1/4 of Section 13, Township 32N, Range 9E Latitude: 48° 15' 57" N. Longitude: 122° 36' 16" W.		
Contact at Facility	Mr. Jim Reece, Site Environmental Manager Telephone #: 360-436-2917 FAX #: 360-436-1732		
Responsible Official	Mr. Jerald W. Holmes, Plant Manager		
	Mr. David Like, Environmental Manager Hampton Lumber Mills - WA P.O. Box 8 Willamina, OR 97396 Telephone #: 503-876-1386		

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST-7340. The Department of Ecology (the Department) is proposing to issue this permit, which will allow land application of waste water to ground water. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the waste water, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.162) requires that a permit be issued before discharge of waste water to waters of the state is allowed. Regulations adopted by the state include procedures for issuing permits (Chapter 173-216 WAC), and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. Changes to the permit will be addressed in Appendix D--Response to Comments.

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

Hampton Lumber Mills – Washington purchased the Summit Timber Darrington site in March 2002. This is a log yard and sawmill located in Darrington, east Snohomish County. Raw logs are harvested and transported to the Darrington sawmill for sorting, debarking, and processing into green lumber. The rough lumber is dried in kilns, planed, wrapped as final product (2x4 to 4x12 dimensional lumber), and shipped.

The sawmill site was first constructed in the 1940's. Today it consists of two computerized primary breakdown systems, three dry kilns, and a single planer line. The log yard adjacent to the manufacturing facility has an annual inventory of over 80 mmbf. The finished product inventory averages over 150 mmbf annually. Byproducts of this operation include bark, sawdust, chips, and planer shavings.

When the site was first constructed and operated, all surfaces were graded to drain to the Sauk River. As a result of an Ecology enforcement action, stormwater planning began in 1990 to eliminate point source discharges to the river. At that time, the Permittee (Summit Timber) initiated a program to close off all outfalls discharging to the river. At the time of permit application, there was only one emergency bypass pipe leading to the Sauk River. That pipe is now permanently closed. There is no direct discharge to the Sauk River.

The Permittee developed a Stormwater Pollution Prevention Plan (SWPPP) and is covered under the Baseline General Permit for Industrial Storm Water, Permit No. SO 3000509. Since there is no longer a surface water discharge of process water or storm water, coverage under the general permit will be cancelled and the Stormwater Pollution Prevention Plan and provisions will be covered in this proposed permit.

Six stormwater zones were established based on drainage patterns (Figure 1). Zone 1 first drains to a surge tank and then, along with zones 2 and 3, drain to a collection pond. Zones 1, 2, and 3 comprise about 90% of the site. The collection pond is a portion of the former log pond and is a 3.9-acre unlined pond.

The surge tank in zone 1 was originally designed to accommodate a 10-year, 24-hour storm. Two pumps are used to pump the water from the surge tank to the zone 2 sump and then to the collection pond. The surge tank is equipped with a float switch, which transfers the waste water to zone 2. At one level in the surge tank, the small submersible pump is activated. At the next level, a large pump is activated, and at the third level both pumps are activated. Previously, at stormwater flows greater than the 10-year, 24-hour event, the system would overflow to the river but the outfall from the surge tank was permanently sealed. Today there is no overflow conveyance to the river, rather, under extreme events, the yard in the area surrounding the surge tank would flood.

Zones 4, 5, and 6 consist mainly of relatively small roofed areas. In June 1994, the Permittee completed the addition of a 1,150-foot long collection channel to direct stormwater runoff from these zones to the collection pond. This action, in addition to the roadside and riverside berms, eliminates all stormwater flows from the site to the Sauk River.

Two boilers are used on the site to generate steam (150 psi) used in the kiln dryer. Feed water is obtained from the Darrington municipal supply and is softened before it is used in the boilers. The steam generation system operates as a closed power cycle with condensate return. Condensate from steam used in the kilns is collected in sumps and returned to boilers. Both boilers continuously blow-down to the collection pond. Chemicals added to the boiler water include caustic, phosphate, and sulfite. The pH of the boiler water is tested twice daily and maintained at neutral pH.

Hampton submitted a Notice of Construction with Puget Sound Clean Air Agency to add two additional diesel package boilers and four lumber dry kilns. Hampton is in the planning stages for adding a hogged fuel boiler that will eventually replace the existing diesel package boilers. The existing boilers and the new boilers will discharge to the treatment system.

The Permittee also operates a woodwaste landfill. The woodwaste pile began accumulating in late the 50's or early 60's. The woodwaste landfill is regulated by the Snohomish County Health Department under Chapter 173-304, the Minimum Functional Standards for Solid Waste. The Snohomish County Health Department requires groundwater sampling of four wells, one upgradient and three downgradient of the landfill, on a quarterly basis. It appears that all stormwater runoff from the woodwaste fill seeps to ground water via infiltration. Some standing water exists in a small surface pond adjacent to the landfill.

DISTRIBUTION SYSTEM

When water in the collection pond exceeds a certain level, it is pumped and routed through a pipe and into a trench conveyance system at the land infiltration area just across Highway 530.

The 54-acre land application area operates as a rapid infiltration system but the infiltration trenches only occupy a fraction of the total space. Water infiltrates through the flooding of a series of furrows on the site. The water in the pond is held prior to pumping, thereby allowing additional stormwater infiltration to ground water to occur from the pond itself.

GROUND WATER

The soil and sediments in the area of both the sawmill and the landfill are very porous and permeable (6 to 20 inches/hour). They are composed mainly of sand and some gravel lenses, and contain very little clay, silt, and organics. Due to the soil and sediment types, infiltration rates of any fluid are extremely high and residence time is short. Treatment expected of the soil and sediments from such processes as filtration, adsorption and ionic exchange and biochemical reactions will be minimal. These soil characteristics help prevent surface water ponding but cause the ground water under the site to be susceptible to contamination from ground surface sources.

The groundwater table in the sawmill and landfill areas is shallow (15-20 feet). The results of aquifer tests conducted by GeoEngineers on the perched aquifers, unconfined aquifer, and confined aquifer show that the hydraulic conductivity of all three aquifers is very high, on the order of 100-190 feet per day. These aquifer characteristics cause all three aquifers to be susceptible to contamination from ground surface sources.

PERMIT STATUS

The previous permit for this facility was issued on October 24, 1994, and expired on October 24, 1998.

An application for permit renewal was submitted to the Department on February 17, 1998, and accepted by the Department on August 20, 1998. At the Department's request, an updated application was submitted on January 3, 2003.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received a permit compliance inspection on January 7, 2003.

During the history of the previous permit, the Permittee has remained in compliance based on discharge monitoring reports (DMRs) and other reports submitted to the Department and inspections conducted by the Department.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports. The proposed wastewater discharge prior to infiltration or land application is characterized for the following parameters (based on 2 years of DMR data):

Table 1: Wastewater Characterization

Parameter Concentration Range	
Oil and Grease	1-10 mg/L
BOD ₅	10-130 mg/L
pН	Between 6.08-7.3

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be either technology- or water quality-based. Waste water must be treated using all known, available, and reasonable treatment (AKART) and not pollute the waters of the state. The minimum requirements to demonstrate compliance with the AKART standard were determined in the engineering report Summit Timber Company Land Application Engineering Report, 1995, in conformance with Guidelines for the Preparation of Engineering Reports for Industrial Wastewater Land Application Systems, May 1993.

The permit also includes limitations on the quantity and quality of the waste water applied to the application site that have been determined to protect the quality of the ground water. The approved engineering report includes specific design criteria for this facility. Water quality-based limitations are based upon compliance with the ground water quality standards (Chapter 173-200 WAC).

The more stringent of the water quality-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). The following permit limitations are necessary to satisfy the requirement for AKART:

Oil and Grease Daily Maximum 15 mg/L

GROUND WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits shall be conditioned in such a manner as to authorize only activities that will not cause violations of the ground water quality standards. Drinking water is the beneficial use generally requiring the highest quality of ground water. Providing protection to the level of drinking water standards will protect a great variety of existing and future beneficial uses.

Applicable ground water criteria as defined in Chapter 173-200 WAC and in RCW 90.48.520 for this discharge include the following:

Table 2: Ground Water Quality Criteria

Total Coliform Bacteria	1 Colony/100 mL	
Total Dissolved Solids	500 mg/L	
Chloride	250 mg/L	
Sulfate	250 mg/L	
Nitrate	10 mg/L	
рН	6.5 to 8.5 standard units	
Manganese	0.05 mg/L	
Total Iron	0.3 mg/L	
Toxics	No toxics in toxic amounts	

The Department has reviewed existing records and is unable to determine if background ground water quality is either higher or lower than the criteria given in Chapter 173-200 WAC; therefore, monitoring will be required in the permit to determine background ground water quality. The Department will determine limitations after a two-year period based on the groundwater and effluent quality data. The discharges authorized by this proposed permit are not expected to interfere with beneficial uses.

A Hydrogeologic Study is required in the proposed permit to qualify the ground water and the wastewater discharge. If the groundwater standards can be met at the storage pond, no additional treatment will be required and that will be the point of compliance. If groundwater standards cannot be met at the storage pond, further treatment or application changes will be required. The Hydrogeologic Study will help determine the level of monitoring necessary to establish a monitoring plan.

The resultant effluent limits were as follows:

Table 3: Water Quality-based Limitations

Parameter	Limitation	
pН	Between 6.5-8.5 standard units	

No valid upgradient background groundwater data were available. For guidance on determining background information, the Permittee should refer to the *Implementation Guidance for the Ground Water Quality Standards*. The Permittee is required in Section S2 of the proposed permit to collect background concentrations near the point of discharge. Information collected may result in a permit modification or limits in the next renewal.

COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED OCTOBER 24, 1994

Table 4: Comparison of Previous and New Limits

Parameter	Existing Limits	Proposed Limits
Application Rate	To be determined (TBD ¹)	TBD ¹
Oil and Grease, mg/L	Monthly Average: 10 Daily maximum: 15	Daily maximum: 15
pH, standard units	Between 6.0 - 9.0	Between 6.5 - 8.5
BOD ₅ , mg/L	TBD ¹	TBD ¹

¹ TBD means to be determined. Limits, if necessary, will be based on information to be presented in the Hydrogeologic Study and Engineering Report, and submitted monitoring information collected. The permit will be reevaluated within two (2) years after permit issuance.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that groundwater criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

WASTEWATER MONITORING

The monitoring schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

Monitoring for nitrates and nitrites is being required to further characterize the effluent. These pollutants could have a significant impact on the quality of the ground water.

GROUNDWATER MONITORING

The monitoring of ground water at the site is required in accordance with the ground water quality standards, Chapter 173-200 WAC. Guidance can be found in the Ecology document *Implementation Guidance for the Ground Water Quality Standards*. The Department has determined that this discharge has a potential to pollute the ground water. Therefore, the Permittee is required to evaluate the impacts on groundwater quality. Monitoring of the ground water at the site boundaries and within the site is an integral component of such an evaluation.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110).

OPERATIONS AND MAINTENANCE

The proposed permit contains Condition S5 as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under the authority of RCW 90.48.080, that the Permittee submit a solid waste plan designed to prevent solid waste from causing pollution of the waters of the state and submit it to the Department.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a SPCC (Spill Prevention Countermeasure and Control) plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

GROUND WATER QUALITY EVALUATION (HYDROGEOLOGIC STUDY)

In accordance with WAC 173-200-080, the permit requires the Permittee to update and submit the hydrogeologic study for Departmental approval. The hydrogeologic study will be based on soil and hydrogeologic characteristics and be capable of assessing impacts on ground water. The study will be prepared using "Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems," Ecology 1993.

ENGINEERING REPORT (FACILITY PLAN)

The permit requires the Permittee to submit an approvable undated Engineering Report in accordance with WAC 173-240. The updated report shall be prepared using "Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems," Ecology 1993.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

The permit requires the Permittee to develop a SWPPP and retain it on-site. The Permittee is required to implement all the elements of the SWPPP. The SWPPP shall cover the log yard and the woodwaste landfill.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to groundwater permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending, or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes, or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the state of Washington. The Department proposes that the permit be issued for five (5) years.

REFERENCES FOR TEXT AND APPENDICES

Faulkner, S.P., Patrick Jr., W.H., Gambrell, R.P., May-June, 1989. <u>Field Techniques for Measuring Wetland Soil Parameters</u>, Soil Science Society of America Journal, Vol. 53, No.3.

Washington State Department of Ecology, 1993. <u>Guidelines for Preparation of Engineering</u> Reports for Industrial Wastewater Land Application Systems, Ecology Publication # 93-36. 20 pp.

Washington State Department of Ecology.

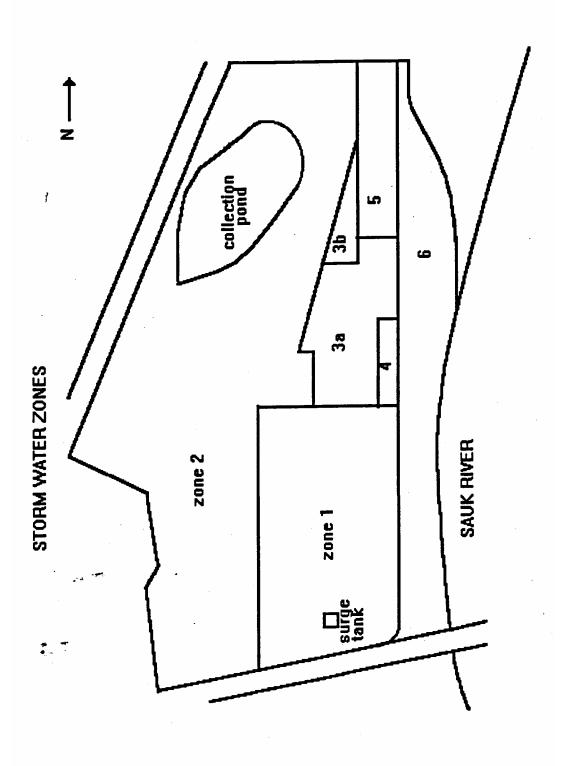
Laws and Regulations (http://www.ecy.wa.gov/laws-rules/index.html)

Permit and Wastewater Related Information (http://www.ecy.wa.gov/programs/wq/wastewater/index.html)

Washington State Department of Ecology, 1996. <u>Implementation Guidance for the Ground Water Quality Standards</u>, Ecology Publication # 96-02.

Washington State University, November, 1981. <u>Laboratory Procedures - Soil Testing Laboratory</u>. 38 pp.

FIGURE 1 - STORMWATER ZONES



APPENDICES

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

The Department published a Public Notice of Application (PNOA) and Draft (PNOD) on May 13 and May 20, 2004, in *The Everett Herald* to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments were mailed to:

Water Quality Permit Coordinator Washington State Department of Ecology Northwest Regional Office 3190 – 160th Avenue SE Bellevue, WA 98008-5452

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30)-day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, 425-649-7201, or by writing to the address listed above.

This permit and fact sheet were written by Lori LeVander.

APPENDIX B--GLOSSARY

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the biochemical oxygen demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity--Clearing, grading, excavation, and any other activity which disturbs the surface of the land. Such activities may include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activity.

Continuous Monitoring--Uninterrupted, unless otherwise noted in the permit.

Distribution Uniformity--The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample--A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic waste water. These wastes may result from any process or activity of industry, manufacture, trade or business; from the development of any natural resource; or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)--A calculated value five times the MDL (method detection level).

Soil Scientist—An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5, 3, or 1 year(s), respectively, of professional experience working in the area of agronomy, crops, or soils.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Storm Water--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria--A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids--That portion of total solids in water or waste water that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX C—RESPONSE TO COMMENTS

No comments were received during the public comment period.